ABSTRACT OF THE DISCLOSURE

A sine wave generation circuit and an uninterruptible power supply system (UPS) using the same, and more particularly, a sine wave generation circuit and a UPS using the same, which can output a sine wave for direct current (DC) power from a battery. In the UPS, a rectifier rectifies commercial alternating current (AC) power from an input terminal and converts the AC power into DC power. A charger charges a battery with the DC power. The battery provides the DC power. A DC-DC converter boosts and/or drops the DC power inputted from the battery by a predetermined level of the AC power. A D-class amplifier receives the DC power from the DC-DC converter and outputs a sine waveform power signal in response to a waveform control signal. A sine waveform controller controls a sine waveform generation operation of the D-class amplifier. A switching unit switches the commercial AC power from the input terminal to a load in a normal mode, and switches the sine waveform power signal from the D-class amplifier to the load when an error of the commercial AC power is detected.